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# ProMED Update

*A review of emerging diseases reported on ProMED-mail www.promedmail.org*

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**Variant Creutzfeldt-Jakob disease from blood transfusion (United Kingdom)**

The concern over the potential for the blood supply to transmit variant Creutzfeldt-Jakob disease continues. The possibility exists that there is a second case in which transmission is the result of a blood transfusion. This occurred in a patient in the UK who received a blood transfusion in 1999 from a donor who later went on to develop transmit variant Creutzfeldt-Jakob disease [ProMed mail archive number 20040722.2009].

According to the Department of Health, the patient died of causes unrelated to variant Creutzfeldt-Jakob disease. The post-mortem examination demonstrated the presence of the variant Creutzfeldt-Jakob disease agent in the patient's spleen. The first case to be reported that may have been transmitted via transfusion was that of a patient thought to have contracted variant Creutzfeldt-Jakob disease from a blood transfusion received in 1997, who subsequently developed variant Creutzfeldt-Jakob disease and died 6 years later.

**Rabies infections in organ donor and transplant recipients in the United States (Alabama, Arkansas, Oklahoma, and Texas)**

According to MMWR 53(Dispatch);1 on July 1, 2004, the United States Centers for Disease Control and Prevention (CDC) reported laboratory confirmation of rabies as the cause of encephalitis in an organ donor and three organ recipients at Baylor University Medical Center (BUMC) in Dallas, Texas. Hospital and public health officials in Alabama, Arkansas, Oklahoma, and Texas initiated public health investigations to identify donor and recipient contacts, assess exposure risks, and provide rabies postexposure prophylaxis (PEP). As of July 9, PEP had been initiated in approximately 174 (19%) of 916 persons who had been assessed for exposures to the organ recipients or the donor. As a result of its public health investigation, the Arkansas Department of Health determined that the donor had reported being bitten by a bat.

On July 7, CDC was notified of an additional organ transplant patient at BUMC who had died of encephalopathy of unknown origin in early June. This case was detected as part of an ongoing review of transplant-patient autopsies. The patient, who had end-stage liver disease, had received a liver transplant at BUMC in early May 2004. The patient remained hospitalized with transplant-related complications and began having neurologic abnormalities in early June, progressing to seizure, coma, and death. On July 7, pathologists at BUMC identified intracytoplasmic inclusions, suggestive of rabies, in neurons in multiple areas of the brain.

Specimens from the recipient were sent to CDC on July 7, and direct fluorescent antibody and immunohistochemical staining procedures confirmed the presence of rabies viral antigens in multiple areas of the brain, including the hippocampus, midbrain, pons, medulla, and cerebellum. Similar to the findings with the three previously known rabies-infected transplant recipients, preliminary antigenic characterization of the agent was consistent with a rabies virus variant associated with insectivorous bats. On July 8, CDC laboratory testing of tissues and serum from the donor who provided the liver yielded no evidence of infection with rabies virus.

Review of surgical procedures at BUMC determined that a segment of iliac artery recovered from the donor subsequently determined to have rabies had been stored at the facility for future use in liver transplants. This artery segment subsequently was used in the transplantation of the liver in the most recently identified rabies-infected recipient. Investigation of rabies transmission sources is ongoing, although current evidence suggests that the artery segment originating from the rabies-infected donor likely is the source of the latest rabies infection. Identification of contacts of this liver recipient is under way, as is initiation of PEP.

**Update on Ebola haemorrhagic fever, Sudan**

As we reported in ProMED Update in the July issue of IJID, an outbreak of Ebola haemorrhagic fever (EHF) was affecting the town of Yambio in Western Equatoria, Sudan. More recent data from the WHO have confirmed the total number of cases of EHF as 17 and the

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number of deaths as seven, by July 6, 2004 (ProMED archive number 20040706.1810). The case fatality rate for this outbreak has been estimated as between 23.3 and 33.3%. Thirteen of the cases were laboratory confirmed and four were epidemiologically linked. Compared to earlier reports the number of cases has dropped as a result of reclassification, after additional laboratory results became available from the WHO Collaborating Centre at the CDC. It appears that twelve of the cases originally thought to be EHF were in fact measles. The last case of EHF was reported and isolated on 14th June, so the outbreak appears to have been successfully contained and contact follow-up has been stopped. However, surveillance and social mobilization activities are continuing.

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**Leptospirosis in Kenya**

A massive outbreak of leptospirosis or 'swamp fever' has affected hundreds of people in the Western Province of Kenya since May 2004 (ProMED archive number 20040713.1879). Within the first month, 26 people had died of the infection. By mid-July four primary schools in the area were still reporting new cases, with over 100 pupils being admitted to the Webuye district hospital. The disease was initially diagnosed at Chesamisi Secondary School in Kimilili, where over 100 students were admitted to hospital and six students died. Two pupils at neighbouring primary schools and five villagers also died of the disease. The presenting symptoms initially pointed towards a clinical diagnosis of malaria or typhoid, but leptospirosis was later confirmed serologically.

In Kenya, leptospirosis in humans has been reported from Nyanza Province and Kwale District in Coast Province, where it was associated with sugar cane growing. In Western Kenya it appears the disease has been occurring in 10-year cycles. Outbreaks were reported in 1974 and 1985, but the current outbreak is the biggest. The infection is usually acquired through exposure to water contaminated with infected urine, but it can also be spread by direct contact with infected animals such as dogs, rats, donkeys, cattle, goats and sheep. The likely source of infection in the Kenyan outbreak is untreated water, as reports suggest that local schools and communities have been drawing water from various rivers and not treating it. The river waters were known to be contaminated by untreated sewage that was discharged into the river earlier this year.

As noted on ProMED mail, the fact that new cases of leptospirosis continue to appear supports the likelihood of an ongoing source of contaminated water, but not necessarily continued contamination. This is because in favourable conditions leptospires can survive in fresh water for over two weeks and in soil for up to 24 days. This environmental stability may account for some of the continuing occurrence of cases, although it is more likely to be due to exposure to an ongoing water source.

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***E. coli* O157**

A couple of outbreaks of *E. coli* O157:H7 have been reported on ProMED mail recently. In Durham and Chester-le-Street in North-East England, nine cases were traced to meat from a butcher's shop at the beginning of July (ProMED archive number 20040706.1809). These included a one-year old child and another person aged 75. The butcher's shop has voluntarily closed while investigations continue. Around the same time, 26 possible cases of *E. coli* O157 were reported from a day care centre in the Bronx, New York City (ProMED archive number 20040706.1812). The children were treated at Montefiore Medical Center, and although the condition was described as 'serious' they were all stabilized and later released.